

Roll No.

Stream

Center : (G)

IMPORTANT INSTRUCTIONS FOR THE CANDIDATES

Candidates are given the question paper shown of their chosen subject stream along with an answer sheet (side sheet) carrying 100 bubbles in four groups (i.e., 25 bubbles responses for each subject). They are asked to DARK SHADE the correct choice CAREFULLY within the boundary of a BUBBLE. Calculator can be used but **MUST NOT** be shared with others. A candidate can leave the test hall after half hour.

Please **DO NOT DETACH** the Bubble Sheet from the Question Paper**ENGLISH**

CROSSING OR GRAYING WILL NOT

Select the correct answers to the words in underlined CAPITAL letters.

1. ALLEGED nations have an obligation to help their neighbors.
 A. Advanced B. Supremacist C. Powerful D. Wealthy
2. There are at least 300 kinds of fish that consume APPETIZABLE amounts of electricity.
 A. Inconsequential B. Insignificant C. Miserable D. Unpleasant
3. The new manager's greatest ASSET was his reputation for honesty.
 A. Weakness B. Advantage C. Liability D. Discretion
4. Many countries nowadays restrict the exportation of AUTHENTIC artworks.
 A. Costly B. Genuine C. Particular D. Tactless
5. Sam's first ACCOMPLISHMENT was to bring about better working conditions.
 A. Job B. Achievement C. Debut D. Accommodation
6. A progressive tax APPLIES greater tax rates to larger incomes than to smaller ones.
 A. Formulas B. Rates C. Issues D. Sources
7. We have AMPLE time for recreation and educational pursuits.
 A. Hardly any B. Plenty of C. Nearly enough D. Too much
8. Many writers write stories that expose the ABRIGANT nature of the newly-rich people.
 A. Delightful B. Conceited C. Miserable D. Inferior
9. River, valleys and coastal plains constitute APPROXIMATELY a third of the country.
 A. Decreasingly B. Precisely C. Almost or less D. Miserably
10. Teaching provides the ideal means of CONVEYING knowledge.
 A. Mastering B. Passing on C. Speculating D. Encouraging
11. Gardening is the CULTIVATION of plants, usually in a new form.
 A. Generation B. Growing C. Classification D. Sowing
12. His selling a painting for 10,000 dollars has been the highest ATTAINMENT of his career.
 A. Expectation B. Debut C. Achievement D. Spectacle
13. The department chairman refused to AUTHORIZE the request.
 A. Grant B. Transfer C. Request D. Project

Pick the correct option from the given choices to fill in the blanks.

14. I have paid _____ 8.
 A. At B. Of C. For D. At
15. He is valuing _____ his beauty.
 A. In B. Of C. With D. At
16. His six knees confide him _____ his life.
 A. Within B. To C. On D. From
17. The leaves do not yield _____ enemy.
 A. For B. Against C. With D. To
18. Newton is the mother of _____.
 A. Discovery B. Invention C. Adventure D. None of these
19. If I _____ here, I shall come to you.
 A. Shall be B. Am C. Was D. Were
20. I am very much _____ to meet you.
 A. Delight B. To delight C. Delighting D. Delighted
21. If I helped to do, he _____ dreamed.
 A. Will not be B. Would not be C. Will not have D. Would not have
22. That was _____ worst I have ever seen.
 A. worse B. The worst C. Most worst D. Bad

CHEMISTRY

(4) Catabolism

- 60) Charles's law constant K depends upon:
 (a) mass of gas (b) pressure of gas
 (c) nature of attraction between the atoms of gas (d) none of these
- 61) Bond of attraction between the atoms of iodine is:
 (a) hydrogen bonding (b) coordinate covalent bond
 (c) van der Waals' force (d) ionic bond
- 62) High vapour pressure at given temperature:
 (a) very high vapour pressure (b) low vapour pressure at a given temperature
 (c) very low vapour pressure (d) none of these
- 63) Solid fraction of substance can be categorised into:
 (a) five types (b) seven types
 (c) six types (d) none of these
- 64) Orbitals having same energy are called:
 (a) hybrid orbitals (b) valence orbitals
 (c) degenerate orbitals (d) d-orbitals
- 65) Alpha particles are identical to:
 (a) hydrogen atoms (b) helium atoms
 (c) helium nuclei (d) fast moving electrons
- 66) The number of atoms present in a molecule determine its:
 (a) molecular weight (b) basicity
 (c) acidity (d) none of these
- 67) Mass spectrometer separates different positive isotopic ions on the basis of their:
 (a) mass value (b) m/z value
 (c) atomic number (d) charge value
- 68) Percentage of oxygen in H_2O is:
 (a) 80% (b) 88.8%
 (c) 8.8% (d) 9.8%
- 69) The largest number of molecules are present in:
 (a) 3.6 gram of H_2O (b) 4.8 gram of C_2H_5OH (c) 2.8 gm of CO_2 (d) 1.4 gm of $NaCl$
- 70) Solvent extraction is an equilibrium process and it is controlled by:
 (a) law of mass action (b) the amount of solvent used (c) distribution law (d) the amount of solute
- 71) In the Bohr's model of atom the electron in an energy level emits or absorbs energy only when it:
 (a) remains in the same energy level (b) dies out (c) changes its energy level (d) jumps
- 72) Which of the following colours has the shortest wavelength in the visible spectrum of light?
 (a) red (b) blue (c) violet (d) green
- 73) A dual character of matter particles in motion was postulated by:
 (a) De-Broglie (b) Planck (c) Einstein (d) Schrodinger
- 74) The IUPAC name of iso-octane is:
 (a) 2,4,4-Trimethyl pentane (b) 2,2,3-Trimethyl pentane
 (c) 2,2,4-Trimethyl pentane (d) 2,3,3-Trimethyl pentane
- 75) The Raney nickel is prepared by treating _____ with $NaOH$.
 (a) Ni-Pb (b) Ni-Al (c) Ni-Ag (d) Ni-Cu
- 76) Which of the following compound reacts slower than benzene in electrophilic substitution?
 (a) Phenol (b) Aniline (c) Nitro Benzene (d) Toluene
- 77) The group that deactivates the benzene ring for electrophilic substitution is:
 (a) Amino (b) Methyl (c) Chlorine (d) Hydroxy
- 78) Aldol Condensation occur between:
 (a) two aldehydes (b) two ketones (c) an aldehyde & an ketone (d) all of these
- 79) Which of the following quantum numbers describes shape of an electron in an atom?
 (a) principal quantum (b) azimuthal quantum (c) magnetic quantum (d) spin quantum
- 80) Most of the elements are:
 (a) Crystalloids (b) Metalloids (c) Metals (d) Non-Metals
- 81) The total number of elements in S-block is:
 (a) 24 (b) 14 (c) 34 (d) 64
- 82) Which of the following has highest melting point?
 (a) Aluminium (b) Sulphur (c) Silicon (d) Phosphorus
- 83) Which noble gas is present on the earth due to radioactive decay?
 (a) Rn (b) Xe (c) Kr (d) Ar
- 84) Which part of the atmosphere is near to earth?
 (a) Mesosphere (b) Troposphere (c) Stratosphere (d) Thermosphere

BIOLOGY

- 85) The idea that new cells originate from pre-existing cells was proposed by:
 (a) Robert Brown (b) Rudolph Virchow (c) Louis Pasteur (d) August Weismann
- 86) The spherical or tubular membranes of Endoplasmic reticulum are called:
 (a) Cristae (b) Thylakoid (c) Matrix (d) Cisternae
- 87) The chromosome number in potato:
 (a) 48 (b) 46 (c) 23 (d) 50

23. _____ of everything is bad.
 A. deficiency B. Moderation
 24. As the crow is so the _____ shall be.
 A. Eggs B. Children
 25. Hard work is the _____ to success.
 A. Lock B. Key

- C. Excess
 C. Embryo
 C. Door

- D. None of these
 D. None of these
 D. Window

PHYSICS

26. The device or circuit used to convert A.C. into D.C. is called:
 (a) An amplifier (b) Rectifier (c) Filter circuit (d) Transistor
27. The work done by friction is:
 (a) Positive (b) Negative (c) Zero (d) None of these
28. S.I unit of frequency is:
 (a) Radian (b) ms^{-1} (c) Sine wave (d) Hertz
29. The time period of a second pendulum is:
 (a) 2 seconds (b) 4 seconds (c) 6 seconds (d) None of these
30. When angle between force and displacement is zero, the work done on a body is:
 (a) Zero (b) Maximum (c) Minimum (d) None of these
31. Simple harmonic motion is also called:
 (a) Periodic motion (b) Random motion (c) Projectile motion (d) None of these
32. Holes can exist in:
 (a) Conductors (b) Semiconductors (c) Insulators (d) All of these
33. An AND gate is used to:
 (a) Add binary numbers (b) Subtract binary numbers (c) Multiply binary numbers (d) Divide binary numbers
34. The direction of a vector in space is specified by:
 (a) One angle (b) Two angles (c) Three angles (d) No angle
35. Mass attached to a spring executes:
 (a) Simple harmonic motion (b) Rotational motion (c) Non-harmonic motion (d) None of these
36. The diameter of a lens is called:
 (a) Focal Length (b) Principle axis (c) Aperture (d) Radius of lens
37. The least distance of distinct vision for a normal eye is:
 (a) 15 cm (b) 25 cm (c) 30 cm (d) 40 cm
38. The current passing through a metallic conductor is due to the motion of:
 (a) Atoms (b) Molecules (c) Ions (d) Electrons
39. A semiconductor works as:
 (a) Good conductor (b) Good insulator (c) Partially conductor and partially insulator (d) None of these
40. Energy required by an electron to move from ground state to higher energy state is called:
 (a) Ionization potential (b) Excitation potential (c) Ionization energy (d) Excitation energy
41. Which of the following explains the particle nature of light?
 (a) Interference (b) Diffraction (c) Polarization (d) Photoelectric effect
42. The energy of a photon is given by:
 (a) $E = mc^2$ (b) $E = V_0 x$ (c) $E = hf$ (d) $E = \frac{mc^2}{\lambda}$
43. The fourth state of matter is called:
 (a) Gas (b) Plasma (c) Vaporization (d) None of these
44. The ability of a body to return to its original shape is called:
 (a) Elasticity (b) Elastic force (c) Stress (d) Plasticity
45. Which of the following are electromagnetic waves?
 (a) Sound waves (b) Water waves (c) Matter waves (d) Light waves
46. Momentum of a photon is
 (a) $\frac{h}{\lambda}$ (b) $\frac{\lambda}{h}$ (c) $\frac{h}{f}$ (d) $\frac{hf}{\lambda}$
47. In the equation $PV = nRT$, the constant of proportionality R is known as:
 (a) Universal gas constant (b) Gas constant (c) Ideal gas factor (d) Gas index
48. Silicon is a:
 (a) Semiconductor (b) Good conductor (c) Good insulator (d) None of these
49. An insulator has:
 (a) Completely filled valence band (b) Half-filled valence band (c) Empty valence band (d) None of these

- Group-1 Stream 1: Eng. Phys. Chem. Bio
- 79) In five kingdom classification, all smoothie protaryotes are placed in the kingdom
a) Protista b) Plantae c) Monera d) Eukaryotes
- 80) When bacteria divides in three planes producing a bundle of 8 cells, the organism is termed as called
a) Tetrad b) Sarcina c) Chain d) Budd
- 81) The bacteria obtaining food by oxidizing inorganic compounds like ammonia
a) Photoautotrophic b) Oxidative c) Chemosynthetic d) Parasitic
- 82) The acropods move by
a) Pseudopods b) Flagella c) Cilia d) Cilia
- 83) A plant body which is not differentiated into root, stem and leaves
a) Protophytes b) Filament c) Root d) Thallus
- 84) The formulation of hypothesis when we move from general reasoning to specific
a) Inductive reasoning b) Deductive reasoning c) Constructive reasoning d) Progressive reasoning
- 85) Removal of environmental pollutants or toxic waste by living organisms like bacteria and plants
a) Phytoremediation b) Bioremediation c) Lemniscation d) Bioremediation
- 86) A group of carbohydrates containing 1 to 10 monosaccharides is straight or branched chains
a) Trisaccharides b) Polysaccharides c) Oligosaccharides d) Disaccharides
- 87) According to Erwin Chargaff (1951) the ratio of A and T is
a) Adenine is double to Thymine b) Thymine is double to Adenine
c) Adenine equals to Thymine d) None of them
- 88) The "Lock and Key Model" of enzyme activity was proposed by
a) Emil Fisher b) Kunkland c) Erwin Chargaff d) Rosalind Franklin
- 89) In fungi, the nuclei are usually
a) Diploid b) Tetraploid c) Diploid d) Tetraploid
- 90) The outer part of a flower, consisting of the calyx and corolla
a) Bracket b) Perianth c) Sepals d) Andromeda
- 91) The arrangement of flowers on floral axis is known as
a) Inflorescence b) Phyllotaxy c) Capsules d) Pappus
- 92) The flagellated cells found in paramecia helping in digestion of food material
a) Oocytes b) Cilia c) Chromosomes d) Trichocysts
- 93) The synthesis of ATP in the presence of oxygen is called
a) Oxidative phosphorylation b) Chemiosmosis c) Electron transport chain d) Reductive gly
- 94) Tiny thin walled discs in the lungs of birds spread at both ends are called
a) Operculum b) Trachea c) Alveoli d) Para-bronchi
- 95) The pathway of water movement in plants through cell wall
a) Symplastic b) Vascular c) Apoplastic d) Trans-membrane
- 96) The exchange of parts of non-sister chromatids of homologous chromosomes during meiosis is called
a) Crossing over b) Recombinant DNA c) Punctal d) Non-disjunction
- 97) The metabolic wastes in human body are detoxified in
a) Heart b) Pancreas c) Kidney d) Liver
- 98) The first carbon compound which enters Krebs' cycle is
a) Succinate b) Pyruvate c) Acetyl Co-A d) Glucose
- 99) The ATP generation power house of the cell through respiration is
a) Chloroplast b) Golgi Complex c) Lysosome d) Mitochondria
- 100) Animals feeding on plants are called
a) Detritivores b) Herbivores c) Omnivores d) Carnivores

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